

DEPARTMENT OF PUBLIC HEALTH AND HUMAN SERVICES

Communicable Disease Control

Smallpox

What is smallpox?

Smallpox is a contagious viral disease that usually causes a severe whole body rash. The rash starts out as red spots which enlarge, become pus-filled and then scab. Other symptoms include fever, lack of energy, headache, backache, and vomiting. Smallpox is caused by Variola virus.

How is smallpox spread?

In the majority of cases, smallpox is spread from one person to another by infected saliva droplets that expose a susceptible person having face-to-face contact with the ill person. People with smallpox are most infectious during the first week of illness.

If someone comes in contact with smallpox, how long does it take to show symptoms?

The incubation period is about 12 days (range: 7 to 17 days) following exposure.

Is smallpox fatal?

The majority of patients with smallpox recover, but death may occur in up to 30% of cases.

Is there any treatment for smallpox?

There is currently no proven treatment for smallpox. Patients with smallpox can benefit from supportive therapy (e.g., intravenous fluids, medicine to control fever or pain) and antibiotics for any secondary bacterial infections that may occur.

Is there a vaccine for smallpox?

There is an effective vaccine to prevent smallpox (see under VACCINATION).

If someone is exposed to smallpox, is it too late to get a vaccination?

If the vaccine is given within 4 days after exposure to smallpox, it can lessen the severity of illness or even prevent it.

When was the last case of smallpox?

The last naturally acquired case of smallpox occurred in 1977. The last cases of smallpox, from laboratory exposure, occurred in 1978. In the United States, routine vaccination against smallpox ended in 1972.

Are we expecting a smallpox attack?

We are not expecting a smallpox attack, but the recent events that include the use of biological agents as weapons have heightened our awareness of the possibility of such an attack.

Is there an immediate smallpox threat?

No. At this time we have no information that suggests an imminent smallpox threat.

What should people do if they suspect a patient has smallpox?

Report suspected cases of smallpox to your local health department. The local health department is responsible for notifying the state health department, the FBI, and local law enforcement. The state health department will notify the National Centers for Disease Control and Prevention (CDC).

How can we stop the spread of smallpox after someone comes down with it?

Symptomatic patients with suspected or confirmed smallpox are capable of spreading the virus. Patients should be placed in medical isolation so that they will not continue to spread the virus. In addition, people who have come into close contact with smallpox patients should be vaccinated immediately and closely watched for symptoms of smallpox. Vaccination and isolation are the strategies for stopping the spread of smallpox.

Do health agencies have a smallpox plan?

The National Centers for Disease Control and Prevention (CDC) have been preparing for some time for the remote possibility of an outbreak of smallpox as an act of terror. That process has intensified since September 11, 2001. Although we are planning for this possibility to protect public health, we have no indication that there is an imminent threat. As part of the ongoing effort to increase preparedness, CDC has distributed a draft of a smallpox preparedness plan. State and local health departments are working together to develop a comprehensive state plan.

Should I get vaccinated against smallpox?

Vaccination is not recommended at this time, and the vaccine is not available to healthcare providers or to the public. Smallpox vaccination was terminated in the U.S. in 1972 because the risk of complications outweighed the threat of endemic smallpox. In the absence of a confirmed case of smallpox anywhere in the world, there is no need to be vaccinated against smallpox. The CDC maintains an emergency supply of vaccine that can be released if necessary, since vaccination after exposure has occurred is effective.

What are the side effects of the smallpox vaccines?

Side effects from successful vaccination, particularly in those receiving their first dose of vaccine, include tenderness, redness, swelling, and a lesion at the vaccination site. In addition, the vaccination may cause fever for a few days and the lymph nodes in the vaccinated arm may become enlarged and tender.

What are the risks of the smallpox vaccines?

The overall risks of serious complications of smallpox vaccination occur more frequently in those receiving their first dose of vaccine, and among young children. One to two deaths occur per million recipients of the vaccine. One of the most frequent serious complications is encephalitis (brain inflammation), which occurs in about one in 300,000 doses in children and one in 200,000 doses in adults. Other vaccine-related adverse events include generalized rash due to the vaccine virus itself.

How much smallpox vaccine is available in case of a bioterrorism attack using smallpox?

The government currently has 15 million doses which can be diluted to 75 million doses and still retain its potency. The drug company Aventis Pasteur has donated an additional 80 million doses that could be used in an emergency. The government is also buying 220 million doses which are being made by a new technique. Delivery of the new doses is expected by the end of 2002.

If people got the vaccination in the past when it was used routinely, will they be immune?

Not necessarily. Routine vaccination against smallpox ended in 1972. The level of immunity, if any, among persons who were vaccinated before 1972 is uncertain; therefore, these persons are assumed to be susceptible. For those who were vaccinated, it is not known how long immunity lasts. Most estimates suggest immunity from the vaccination lasts 3 to 5 years. This means that nearly the entire U.S. population has partial immunity at best. Immunity can be boosted effectively with a single revaccination. Prior infection with the disease grants lifelong immunity.

Who is the vaccine not recommended for?

Smallpox vaccine should not be administered to persons with a history or presence of eczema or other skin conditions, pregnant women, or persons with immunodeficiency diseases and among those with suppressed immune systems as occurs with leukemia, lymphoma, generalized malignancy, or solid organ transplantation.

Will ciprofloxacin protect me against smallpox?

No. Because smallpox is a virus, antibiotics such as ciprofloxacin will not fight the smallpox infection. As mentioned above, getting the vaccine within a few days of exposure to the virus can prevent illness or reduce its severity.

Where can I get more information about smallpox?

CDC website: www.bt.cdc.gov